



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,199	08/29/2001	Kristy A. Campbell	M122-1672	8508
21567	7590	01/28/2004	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			VU, DAVID	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/943,199	Applicant(s) CAMPBELL ET AL.	
	Examiner DAVID VU	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-89 is/are pending in the application.
- 4a) Of the above claim(s) 5,7,8 and 17-89 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,9-16 and 90-107 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2-3,6,8</u> | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 1-4, 6 and 11-16 and 100-107 are rejected under 35 U. S. C. 102(e) as being anticipated by Kozicki et al., (US 2002/0168820).

Regarding claims 1-4, 6 and 11-16 and 100-107, Kozicki et al., in related text ([0039]) and figures (Figures. 1-2) disclose a method of forming a chalcogenide comprising device, comprising: forming a first conductive electrode material 130 on a substrate 110; forming a metal doped chalcogenide 140/160; an exemplary chalcogenide glass with dissolved metal includes a solid solution of $\text{As}_x\text{S}_{1-x}\text{Ag}$, $\text{Ge}_x\text{Se}_{1-x}\text{Ag}$, $\text{Ge}_x\text{S}_{1-x}\text{Ag}$, $\text{As}_x\text{S}_{1-x}\text{--Cu}$, $\text{Ge}_x\text{Se}_{1-x}\text{--Cu}$, $\text{Ge}_x\text{S}_{1-x}\text{--Cu}$, where x ranges from about 0.1 to about 0.5 other chalcogenide materials including silver, copper, zinc, combinations of these materials, and the like (See [0062] and [0053]); a metal doped chalcogenide material is preferably amorphous (See [0046]-[0047] and [0053]-

[0055]); exposing the outer surface of the metal doped chalcogenide electrode material to an atmosphere having a temperature elevated from ambient room temperature for a period of time effective to form a passivating material 155 on the metal doped chalcogenide comprising material outer surface (See [0048]); and depositing a second conductive electrode material over the passivating material, and forming the second conductive electrode material 120 into an electrode of the device. The passivating layer 155 is inherently sufficient to improve the uneven surface characteristic such that after subsequent deposition of a conductive electrode layer on the outer surface since the prior art disclose the passivating layer is preferably formed through methods and materials analogous or equivalent to the methods and materials employed in forming the passivating layer within one preferred embodiment of the present invention. Since the passivating layer in Kozicki et al. is deposited under the same conditions as listed in the present invention, then the layer should possess the same properties (i.e. - improving uneven surfaces).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozicki et al., (US 2002/0168820).

Kozicki et al., in related text ([0048]), disclose the passivation 155 may be formed by exposing ion conductor 140 to an oxidizing environment at a temperature of about 300-800°C or by exposing ion conductor 140 to an oxidizing environment in the presence of radiation having an energy greater than the band gap of the ion conductor material. The passivation 155 may also be deposited using physical vapor deposition or chemical vapor deposition.

Kozicki et al., discloses all claimed subject matter, but fails to expressly mention the thickness of the passivation layer. The specific thickness of the passivation layer does not provide any critical or unexpected results to the chalcogenide comprising device. Rather, it is merely an obvious design choice determinable by routine experimentation. In *Aller*, the court stated, "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456 105 USPQ 233,235 (CCPA 1995).

3. Claims 90-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozicki et al., (US 2002/0168820) in view of Applicant admitted Prior Art (AAPA).

Kozicki et al., as advanced above meet all the claimed invention limitations except the amorphous surface characteristic is in the form of nodules.

Applicant admitted Prior Art (AAPA) in related text ([0007]), disclose the metal doped chalcogenide having an uneven surface characteristic in the form of semicircular. It would have been an obvious matter of design choice to make the amorphous portions of the metal doped chalcogenide of whatever form or shape was desired or expedient. A change in form or shape is

generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results.

Response to Arguments

4. Applicant's arguments with respect to claims 1-4, 6 and 9-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2818

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Vu whose telephone number is (571) 272-1798. The examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm. If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms., can be reached on (571) 272-1787.

DV

David Vu.


David Nelms
Supervisory Patent Examiner
Technology Center 2800